

Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1-31. (*Cancelled*)

32. (*Currently Amended*) A method for transmitting data between a cable modem (CM) and a cable modem termination system (CMTS), the method comprising:

transmitting from the CMTS time slot allocations for upstream data transmission;

receiving long and short data packets for upstream transmission at the CM;

storing at the CM wide-band ranging data for transmission on a first carrier

having a wide band and narrow-band ranging data for transmission on a second carrier having a narrow band; and

transmitting either the long packets to the CMTS over the first carrier using the wide-band ranging data or the short packets to the CMTS over the second carrier using the narrow-band ranging data.

33. (*Cancelled*)

34. (*New*) In a communication system, a method comprising:

receiving long and short data packets for upstream transmission;

storing wide-band ranging data for transmission via a first carrier having a wide band and narrow-band ranging data for transmission via a second carrier having a narrow band; and

transmitting either the long packets via the first carrier using the wide-band ranging data or the short packets via the second carrier using the narrow-band ranging data.

35. (New) The method of claim 34, wherein the first carrier is associated with a relatively high data rate, and wherein the second carrier is associated with a relatively low data rate.

36. (New) The method of claim 34, wherein the wide-band ranging data and the narrow-band ranging data include respective transmit power levels.

37. (New) The method of claim 34, wherein the wide-band ranging data includes first fine frequency tuning information, and wherein the narrow-band ranging data includes second fine frequency tuning information.

38. (New) The method of claim 34, wherein the wide-band ranging data includes first transmit equalization information, and wherein the narrow-band ranging data includes second transmit equalization information.

39. (New) The method of claim 34, wherein the wide-band ranging data includes first timing information, and wherein the narrow-band ranging data includes second timing information.

40. (New) In a communication system, a method comprising:

storing at least one first user unique parameter corresponding with a first carrier frequency;

storing at least one second user unique parameter corresponding with a second carrier frequency that is different from the first carrier frequency; and

transmitting a data packet having a data packet length either via the first carrier frequency using the at least one first user unique parameter or via the second carrier frequency using the at least one second user unique parameter, based on the data packet length.

41. (New) The method of claim 40, wherein the at least one first user unique parameter includes at least one selected from the group consisting of a transmit power level, fine frequency tuning information, timing information, and transmit equalization information.

42. (New) The method of claim 40, wherein the at least one first user unique parameter corresponds with a wide-band channel, and wherein the at least one second user unique parameter corresponds with a narrow-band channel.

43. (New) In a communication system, a method comprising:
allocating a wide-band channel for transmission of relatively long packets;
allocating a narrow-band channel for transmission of relatively short packets; and
transmitting a data packet having a data packet length using either the wide-band channel or the narrow-band channel based on the data packet length.
44. (New) The method of claim 43, wherein transmitting the data packet is performed in response to receiving a grant from a cable modem termination system.
45. (New) The method of claim 43, further comprising:
assigning a relatively long packet to the narrow-band channel based on availability of the narrow-band channel.
46. (New) The method of claim 43, further comprising:
assigning a relatively short packet to the wide-band channel based on availability of the wide-band channel.
47. (New) The method of claim 43, wherein a data rate associated with the wide-band channel is greater than a data rate associated with the narrow-band channel.
48. (New) The method of claim 43, further comprising:
storing a first user unique parameter corresponding with the wide-band channel and a second user unique parameter corresponding with the narrow-band channel;

wherein transmitting the data packet is further based on the first or second user unique parameter.

49. (New) The method of claim 48, wherein at least one of the first and second user unique parameters is a transmit power level, fine frequency tuning information, timing information, or transmit equalization information.

50. (New) The method of claim 43, wherein the wide-band channel corresponds with a first carrier frequency, and wherein the narrow-band channel corresponds with a second carrier frequency that is different from the first carrier frequency.

51. (New) In a communication system, a method comprising:
allocating a first carrier frequency for communication of comparatively short packets using a comparatively low symbol rate;
allocating a second carrier frequency that is different from the first carrier frequency for communication of comparatively long packets using a comparatively high symbol rate; and
transmitting a data packet having a data packet length using either the first carrier frequency or the second carrier frequency based on the data packet length.

52. (New) The method of claim 51, further comprising:
maintaining a ranging condition for the first and second carrier frequencies.

53. (New) The method of claim 51, wherein the first carrier frequency is associated with a comparatively lesser bandwidth and the second carrier frequency is associated with a comparatively greater bandwidth.